THE DEPICTION OF POST-TRAUMATIC STRESS SYMPTOMS IN COVID-19 ICU SURVIVORS

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ABSTRACT

Indonesia has been impacted significantly by the COVID-19 pandemic. Although COVID-19 has a high death rate, there are survivors who have recovered after being in the ICU. The ICU has the potential to be a frightening experience and may lead to the development of traumatic feelings in COVID-19 survivors. So, there is a possibility for those who are treated in the ICU for COVID-19 to experience symptoms of PTSD, which is commonly known as PTSS. PTSS is a condition that occurs when severe stress interferes with daily life functions after a traumatic event. Typically, these symptoms persist for more than one month. These symptoms can include re-experiencing, negative cognitive and mood, avoidance, and hyper-arousal. This study aims to provide insight into the prevalence of PTSS among COVID-19 survivors who received treatment in the ICU. Researchers used convenience sampling and a mixed-methods approach with an embedded design, focusing on implementing QUAL(quan), as the research design. The study involved 16 participants for quantitative data and 6 participants for qualitative data. The results indicate that the level of PTSS among COVID-19 survivors receiving ICU treatment in Indonesia tends to be low. There is a tendency toward avoidance in the group that exhibits PTSS.

Keywords: Post-traumatic stress symptoms, covid-19, covid-19 survivors, icu.

1.   PREFACE

Based on *Satuan Tugas Penanganan* COVID-19 website (2021) in Indonesia, there have been 6.813.429 confirmed positive cases of COVID-19 and 161.918 deaths due to COVID-19. This data was last updated on September 13, 2023. People who test positive for COVID-19 may experience different levels of symptoms, ranging from mild to severe. For those with severe symptoms, COVID-19 patients must receive treatment in a hospital, including the possibility of being admitted to the Intensive Care Unit (ICU). The data above underscores the importance of remaining vigilant against the COVID-19 virus, especially for patients with severe symptoms who require hospital treatment. If a COVID-19 patient exhibits three severe symptoms, such as shortness of breath, other underlying health conditions known as comorbidities, and oxygen saturation below 95, they will be advised to seek treatment in the ICU (Pratiwi & Anna, 2021). There are stories from a COVID-19 survivor in Indonesia with the initials AW and another from a survivor in England with the initials T, both sharing their experiences of receiving treatment in the ICU. Firstly, AW was hospitalized for 16 days and required a ventilator for 10 days. One of AW's concerns during ICU treatment was the constant noise of the machines and monitor signals in the ICU room. If a machine remained silent, AW would promptly alert the nurse for a check. Additionally, AW's experience with the ventilator was quite painful, as it hindered his ability to swallow saliva and speak. These challenges caused AW to feel despondent about his chances of survival and recovery from the disease. Fortunately, he received social support from family and healthcare workers, who continued to engage him in conversation even though he couldn't respond (Najwa, 2021). Secondly, T underwent ICU treatment for 18 days without requiring a ventilator or intubation. This allowed T to remember her ICU experience more vividly. T recounted

witnessing eight patients in nearby beds succumb to the virus, a traumatic experience that left her deeply affected. She described how she could sense the fear in the faces of healthcare workers and fellow ICU patients. After being declared recovered and returning home, T found that restoring her mental health was as challenging as her physical recovery. She had trouble sleeping for the first three weeks due to recurring memories of her time in the ICU. Consequently, T sought professional help and was diagnosed with PTSD by two counselors (Murray, 2020). A study conducted by Chamberlain et al. (2021) involving 13,049 COVID-19 survivors in the UK revealed that 41% of individuals experienced PTSD, with 35% of them having severe symptoms necessitating ICU treatment and ventilator use. According to data from the PDSKJI (*Perhimpunan Dokter Spesialis Kedokteran Jiwa* Indonesia) website (2021), it was found that 80% of 182 individuals during the COVID-19 pandemic exhibited symptoms of PTSD. This assessment was based on self-reports using a PTSD measurement tool, namely PCL-C. PTSD itself is a disorder experienced directly by a person after a traumatic event, leading to the appearance of typical symptoms (American Psychiatric Association, 2013). According to Kirkpatrick and Heller (2014), PTSD can also be conceptualized as a failure of recovery caused by a fear of learning. Not all COVID-19 survivors treated in the ICU may receive a diagnosis of PTSD, some may only experience its symptoms. Long-term psychological consequences in survivors of critical illnesses, such as COVID-19, can be understood through the Post-Traumatic Stress Symptoms (PTSS) model (Kazak et al., 2004). According to Olapegba (2021), PTSS is defined as symptoms experienced by a person after a traumatic event, and these symptoms cause significant stress that interferes with daily life functions. Typically, these symptoms persist for more than one month. As stated by Weathers et al. (2013), PTSS is a symptom of PTSD characterized by four main domains: re-experiencing, negative cognitive and mood, avoidance, and hyper-arousal. Previously, there was research conducted by Yuan et al. (2021) comparing the prevalence of Post-Traumatic Stress Symptoms (PTSS) in two groups: COVID-19 survivors and individuals who had never been exposed to COVID-19 (non-COVID-19). The results indicated that the PTSS prevalence was higher in the COVID-19 survivor group than in the non-COVID-19 group, with a prevalence rate of 18.66% (PCL-C score above 38). These findings are valuable as they provide a basis for comparing PTSS prevalence between two distinct groups. However, this research aims to delve deeper into the PTSS profile through qualitative data, thus achieving a more comprehensive understanding. Additionally, researchers have chosen COVID-19 survivors in the ICU as participants, anticipating that they may exhibit more pronounced traumatic symptoms compared to COVID-19 survivors in general. This study aims to examine the prevalence of Post-Traumatic Stress Symptoms (PTSS) in COVID-19 survivors undergoing ICU treatment in Indonesia.

2.   RESEARCH METHOD

Researchers employed convenience sampling as a technique for data collection in this study. Convenience sampling involves selecting research subjects or participants based on their availability and ease of access. In the search for participants, researchers utilized a Google Form distributed via the internet. Additionally, they contacted several hospitals categorized as COVID-19 referral hospitals according to *Jakarta Tanggap* COVID-19 website (2020). In total, 16 participants who were willing to participate in the research were identified. Out of these 16 participants, 9 were recruited from Hospital X, while 7 were obtained through online channels. All participants completed the questionnaire, and their data will be processed quantitatively. Furthermore, 6 out of the 16 participants continued with the research procedures, participating in in-depth interview sessions. Among these 6 participants, 5 were from Hospital X, and 1 was recruited online. The interview data will be processed qualitatively. This research uses a mixed-method research design with an embedded approach that emphasizes the application of QUAL

(quan). The research design combines quantitative and qualitative research methods, with qualitative data being the primary focus, while quantitative data serves as supplementary information (Creswell & Plano Clark, 2017). For the collection of quantitative data, researchers utilized the PTSD Checklist for DSM-5 (PCL-5) measurement tool developed by Weathers et al. (2013). The PCL-5 is a self-report measurement tool consisting of 20 items related to PTSD or PTSS symptoms across four criteria or domains outlined in DSM-5: re-experiencing (Criterion B), avoidance (Criterion C), negative cognitive and mood (Criterion D), and hyper-arousal (Criterion E). The PCL-5 measuring instrument exhibits excellent reliability, with a Cronbach's Alpha coefficient exceeding 0.70, specifically at 0.951. For the qualitative data, researchers will employ an interview guide adapted based on the four criteria or domains outlined in DSM-5. The researchers will process interview transcripts using grounded theory, an approach that focuses on the study of actions, interactions, and the meaning of a phenomenon.

3.   RESULT AND DISCUSSION

Based on the PCL-5, it was found that 10 participants did not exhibit PTSS (62.5%), while 6 participants showed PTSS (37.5%). The re-experiencing dimension (Criterion B) had the highest average score (1.23), indicating that this criterion was the most frequently observed among participants. Conversely, the avoidance dimension (Criterion C) had the lowest average score (1.09), suggesting that this criterion was the least commonly reported by participants. Researchers also examined the average scores within two groups: the group exhibiting PTSS and the group not exhibiting PTSS. In the PTSS group, the re-experiencing dimension (Criterion B) had the highest average score (2.10), making it the most prominent in this group. On the other hand, the hyper-arousal dimension (Criterion E) had the lowest average score (1.89), indicating that it was less prevalent in this group. In the group without PTSS, the re-experiencing dimension (Criterion B) had the highest average score (0.70), while the avoidance dimension (Criterion C) had the lowest average score (0.50), implying that avoidance behaviors were less common in this group. When examined based on the median value of 2.00, the PTSS group met the criteria for the re-experiencing (Criterion B) (2.10), avoidance (Criterion C) (2.08), and negative cognitive and mood (Criterion D) (2.00) dimensions. However, the hyper-arousal dimension (Criterion E) (1.89) tended to score lower, below the middle value. In the group without PTSS, all four dimensions tended to score lower or below the mean value. Overall, it can be concluded that the group exhibiting PTSS is at a moderate level of PTSS, as each dimension has an average score around 2.00. Individuals with moderate levels of PTSS may still be able to function relatively smoothly in daily life. Therefore, the overall mean score of the participants indicated a low level of PTSS. However, differences between the two groups were notable in the avoidance dimension (Criterion C). It is possible that the PTSS group tends to exhibit avoidance behaviors, while the non-PTSS group appears to have the courage to confront reminders of the traumatic event.

Table 1
Quantitative Data: Grouping of PTSS

PTSS	Subject(s)	Percentage (%)
Group without PTSS	10	62.5
Group with PTSS	6	37.5
Total	**16**	**100**

Table 2

Quantitative Data: PCL-5 Results

PCL-5 Dimensions	Average Score		
	Group with PTSS	Group without PTSS	Overall Score
Re-experiencing (Criterion B)	2.10	0.70	1.23
Avoidance (Criterion C)	2.08	0.50	1.09
Negative Cognitive and Mood (Criterion D)	2.00	0.67	1.17
Hyper-arousal (Criterion E)	1.89	0.68	1.14

For qualitative data, 6 participants were used. In the group that showed PTSS, there were 3 participants, namely DL, NF, and, SUW. In the group that did not show PTSS, there were 3 participants, namely SOE, SUR, and AI. For re-experiencing (Criterion B), the symptom that appeared in almost all participants was the repetition of distressing and sad memories related to the traumatic event. DL found that the smell of the hospital and the use of medical equipment were the memories that recurred most intensely in his mind. SUW and AI admitted to still being traumatized by the sounds emitted by medical equipment. NF sometimes recalls the cries of the families of COVID-19 patients who passed away. SUR experienced fear when remembering his loss of consciousness on the first day he was treated in the ICU. No symptoms of Criterion B were found in SOE. For avoidance (Criterion C), individuals make an effort to avoid memories, thoughts, or feelings closely related to the traumatic event. DL mentioned trying to avoid memories associated with the ICU experience by confiding in his closest friends. NF associates trauma or fear with ambulances and does their best to avoid these objects to prevent a decrease in their emotions. AI stated that they avoid hospitals as much as possible when feeling unwell. No Criterion C symptoms were found in SOE, SUR, and SUW. For negative cognitive and mood (Criterion D), the symptoms that appeared was persistent distortion of cognition regarding the event, leading the individual to blame themselves or others. DL felt that this COVID-19 experience was her own fault. There were also dominant negative feelings and thoughts emerging while DL was undergoing treatment in the ICU. AI admitted that she did not have too strict health protocols even though she worked in a hospital that was quite prone to COVID-19. AI also blamed herself. In NF, the symptoms that appeared included persistent negative beliefs about themselves, other people, or the world. After undergoing treatment in the ICU, NF had negative thoughts that being sick would definitely increase the risk of contracting COVID-19 again. SUW, SOE, and SUR do not meet all the criteria for Criterion D. For hyper-arousal (Criterion E), there is sudden irritability and angry behavior (often with little or no provocation). DL felt that he became more sensitive after undergoing treatment in the ICU. Additionally, DL admitted to experiencing insomnia after treatment in the ICU. In NF, the symptoms that appeared included problems with concentration. NF mentioned finding it very challenging to focus while working as a cameraman at a TV station in Jakarta. Furthermore, NF also experienced several sleep problems, leading to decreased sleep quality. NF feels that he becomes easily fatigued after having COVID-19. No Criterion E symptoms were found in SOE, SUR, SUW, or AI.

Table 3
Qualitative Data: Participant's Identity

Identity	1	2	3	4	5	6
Initial	DL	SOE	SUR	AI	NF	SUW
PTSS	Yes	No	No	No	Yes	Yes
Age	31 years old	59 years old	41 years old	32 years old	32 years old	53 years old
Gender	Female	Male	Male	Female	Male	Male
In ICU	7 days	7 days	6 days	5 days	14 days	10 days
In Isolation Room	5 days	7 days	6 days	5 days	2 days	10 days
Total Treatment	12 days	14 days	12 days	10 days	16 days	20 days

Table 4
The Depiction of PTSS in COVID-19 ICU Survivors

	Qualitative Data				Quantitative Data			
Participant	Re-experiencing (Criterion B)	Avoidance (Criterion C)	Negative Cognitive and Mood (Criterion D)	Hyper-arousal (Criterion E)	Score	Status	Highest Score	Lowest Score
DL	v	v	v	v	65	PTSS	Criterion C	Criterion E
NF	v	v	v	v	33	PTSS	Criterion D	Criterion C
SUW	v	x	x	x	31	PTSS	Criterion B	Criterion E
SOE	x	x	x	x	7	No PTSS	Criterion E	Criterion B dan C
SUR	v	x	x	x	3	No PTSS	Criterion B	Criterion C dan E
AI	v	v	v	x	22	No PTSS	Criterion D	Criterion B

For a more detailed explanation, researchers will compare analyses based on qualitative data and quantitative data. In the group showing PTSS, it can be concluded that the qualitative data analysis of DL and NF aligns with the results of the PCL-5. However, the analysis of qualitative data from SUW does not seem to correspond with the findings from the PCL-5. Researchers believe that SUW did not exhibit a PTSS tendency, contrary to the results of the conducted PCL-5. In the group that did not show PTSS, it can be concluded that the qualitative data analysis of SOE and SUR are consistent with the results of the PCL-5. However, the qualitative data analysis of AI does not appear to align with the findings from the PCL-5. Researchers believe that AI exhibits a PTSS tendency, which differs from the results of the conducted PCL-5.

4.　CONCLUSIONS AND RECOMMENDATIONS

Based on this research, it was found that 10 participants did not exhibit PTSS (62.5%), while 6 participants showed PTSS (37.5%). Among the 10 participants who did not show PTSS, 3 participants underwent the interview process. Among the 6 participants who showed PTSS, 3 participants underwent the interview process. If we examine it based on the median value, which is 2.00, the dimension with the highest score in the PTSS group is re-experiencing (Criterion B)

(2.10), and the dimension with the lowest score is hyper-arousal (Criterion E) (1.89). In the group that did not show PTSS, the dimension with the highest score was re-experiencing (Criterion B) (0.70), and the dimension with the lowest score was avoidance (Criterion C) (0.50). Overall, participants in this study tended to have low levels of PTSS based on the average score. However, the group that showed PTSS exhibited a moderate level of PTSS because each dimension had an average score of 2.00. Individuals with moderate levels of PTSS might still have the capacity to lead fairly fulfilling lives. Therefore, the overall mean score of the participants indicated a low level of PTSS. However, differences between the two groups can be seen in the avoidance dimension (Criterion C). It is possible that the PTSS group tends to exhibit avoidance behavior, such as NF who avoids memories of the ICU by trying not to see hospital property such as ambulances. Meanwhile, the group that did not show PTSS tended to have the courage to confront things that reminded them of the traumatic event. For future research, researchers suggest using variables that may provide a better understanding of the condition of COVID-19 survivors who have been out of the ICU for an extended period, such as stress. Additionally, it is recommended to conduct further research to involve more participants. Overall, it is hoped that the results of this research can inspire the public to increase awareness of the mental health of COVID-19 patients and survivors by enhancing health education related to COVID-19 provided by medical personnel and psychoeducation related to mental health offered by psychologists.

Acknowledgement

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